MULTIMEDIA UNIVERSITY

SUPPLEMENTARY EXAMINATION

TRIMESTER 1, 2015/2016 SESSION

TWS 2551 – WEB SERVICES
(All sections / Groups)

19 NOV 2015
2.30 PM – 4.30 PM
(2 HOURS)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of 5 pages only.

2. Attempt 4 out of the 5 questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write your answers in the Answer Booklet provided.

Question 1

a) How can we design an e-commerce website as a Web Service? Explain your answer based on Service-oriented Architecture (SOA). [4 marks]

b) Which technologies that are considered optional in Web Service? Which component in the SOA is considered optional? Justify your answer? [2 marks]

c) Why namespace is important in XML? How does namespace works? What does the URI contains? [4 marks]

Question 2
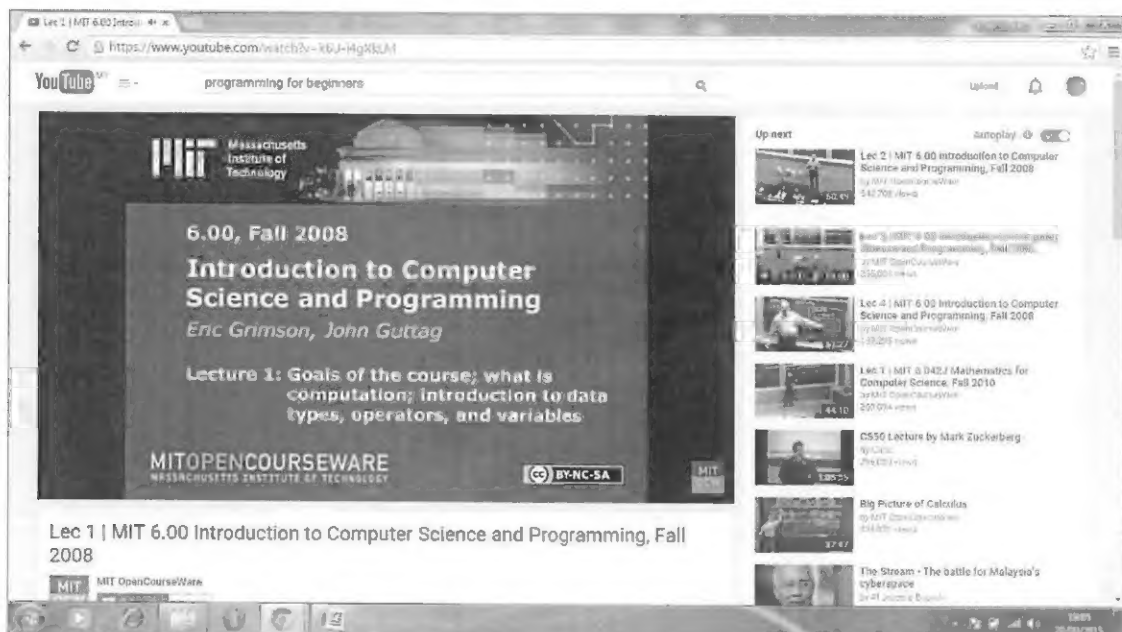
Consider the above website.

a) Write a suitale DTD that defines the structure of the website. [4 marks]

b) Write an XML Schema that is equivalent to the DTD in Question 2(a). [4 marks]

c) Write an XML document that conforms to the structure defines in Question 2(a). [2 marks]

Continued......

Question 3

a) Explain the basic idea about Web Service and how XML is used in Web Service.

[2 marks]

b) Consider the following XML document

```
<AAA >
   <BBB bb = "1" >
      <CCC>Omar </CCC>
      <CCC>male </CCC>
      <CCC>c13 </CCC>
   </BBB>
   <BBB bb = "2" >
      <CCC>Aisyah </CCC>
      <CCC>female </CCC>
      <CCC>c23 </CCC>
   </BBB>
   <BBB bb = "3" >
      <CCC>Ali </CCC>
      <CCC>male </CCC>
      <CCC>c33 </CCC>
   </BBB>
</AAA>
```

and the following HTML output from a transformation.

```
male
female
male
```

Write the XSLT code for the above transformation. You have to use for-each loop to iterate the elements.   [6 marks]

c) Why do we need to transform XML document into a new XML document or other forms? Please state two reasons.   [2 marks]

Continued......

Question 4

```csharp
[WebMethod]
public long Fib(int n)
{
        if (n == 0 || n == 1)
                return n;
        return Fib(k - 2) + Fib(k - 1);
}

[WebMethod]
public Hardware GetAnything()
{
        Computer computer = new Computer();

        return computer;
}
public class Hardware
{
        public string name;
        public string driver;
        private string id;
        public string version;
}
```

Consider the above C# code.

    a) Write the SOAP request for the above Web Methods.   [4 marks]

    b) Write the SOAP response for the above Web Methods.   [4 marks]

    c) List down four (4) fault codes that are used in SOAP fault and explain each of them.
                                                                [2 marks]

Continued......

Question 5

a) Consider the following WSDL code.

```
▼<wsdl:types>
  ▼<s:schema elementFormDefault="qualified" targetNamespace="http://ws.cdyne.com/ProfanityWS/Profanity.asmx">
    ▼<s:element name="SimpleProfanityFilter">
      ▼<s:complexType>
        ▼<s:sequence>
          <s:element minOccurs="0" maxOccurs="1" name="Text" type="s:string"/>
        </s:sequence>
      </s:complexType>
    </s:element>
    ▼<s:element name="SimpleProfanityFilterResponse">
      ▼<s:complexType>
        ▼<s:sequence>
          <s:element minOccurs="1" maxOccurs="1" name="SimpleProfanityFilterResult" type="tns:FilterReturn"/>
        </s:sequence>
      </s:complexType>
    </s:element>
    ▼<s:complexType name="FilterReturn">
      ▼<s:sequence>
        <s:element minOccurs="1" maxOccurs="1" name="FoundProfanity" type="s:boolean"/>
        <s:element minOccurs="1" maxOccurs="1" name="ProfanityCount" type="s:int"/>
        <s:element minOccurs="0" maxOccurs="1" name="CleanText" type="s:string"/>
      </s:sequence>
    </s:complexType>
    ▼<s:element name="ProfanityFilter">
      ▼<s:complexType>
        ▼<s:sequence>
          <s:element minOccurs="0" maxOccurs="1" name="Text" type="s:string"/>
          <s:element minOccurs="1" maxOccurs="1" name="LevelToClean" type="s:int"/>
          <s:element minOccurs="1" maxOccurs="1" name="UseNumberFilter" type="s:boolean"/>
        </s:sequence>
      </s:complexType>
    </s:element>
    ▼<s:element name="ProfanityFilterResponse">
      ▼<s:complexType>
        ▼<s:sequence>
          <s:element minOccurs="1" maxOccurs="1" name="ProfanityFilterResult" type="tns:FilterReturn"/>
        </s:sequence>
      </s:complexType>
    </s:element>
```

Consume all the functions available from the service. The parameter values should be obtained from textboxes and the result should be displayed on a label. The class name for the service is 'Filter' and the reference name is 'abc'. [5 marks]

b) Consider the following WSDL code.

```
▼<wsdl:service name="Profanity">
  ▼<wsdl:documentation xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
    CDYNE Profanity Filter web service is a simple, but elegant way to remove words that are
    applications. Basic Profanity Filtering can be accomplished by utilizing the <b>SimplePro
    href="http://wiki.cdyne.com/wiki/index.php?title=Profanity_Filter">wiki</a> for details c
  </wsdl:documentation>
  ▼<wsdl:port name="ProfanitySoap" binding="tns:ProfanitySoap">
    <soap:address location="http://wsf.cdyne.com/ProfanityWS/Profanity.asmx"/>
  </wsdl:port>
  ▼<wsdl:port name="ProfanitySoap12" binding="tns:ProfanitySoap12">
    <soap12:address location="http://wsf.cdyne.com/ProfanityWS/Profanity.asmx"/>
  </wsdl:port>
  ▼<wsdl:port name="ProfanityHttpGet" binding="tns:ProfanityHttpGet">
    <http:address location="http://wsf.cdyne.com/ProfanityWS/Profanity.asmx"/>
  </wsdl:port>
  ▼<wsdl:port name="ProfanityHttpPost" binding="tns:ProfanityHttpPost">
    <http:address location="http://wsf.cdyne.com/ProfanityWS/Profanity.asmx"/>
  </wsdl:port>
</wsdl:service>
```

Continued......

What is the class name of the service? Where does the service located? Why does the WSDL contains four port name?   [3 marks]

c) Why UDDI is not popular anymore?   [2 marks]

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